

CubeSat Infrared Atmospheric Sounder (CIRAS)

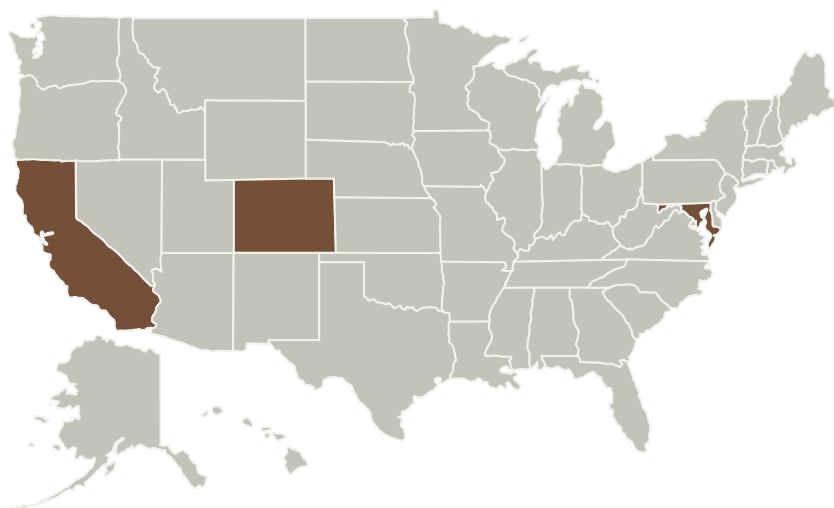
Completed Technology Project (2016 - 2018)



Project Introduction

The objective of the proposed effort is to develop a 6U CubeSat instrument system capable of meeting the temperature and water vapor measurement requirements of the AIRS and CrIS instruments data products in the lower troposphere. The method employed will use an infrared grating spectrometer with infrared detectors and micro-cryocooler. The measurement will be made in the 4-5 micron spectral region. This work is significant in that if selected, the CIRAS will demonstrate a critical science and meteorological measurement in a significantly smaller package enabling use in constellations for improved latency. The CIRAS can also be used as a gap filler in the event of a failure of the CrIS, and thereby providing insurance for the long-term data continuity of AIRS.

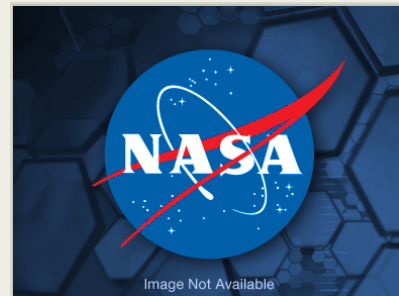
Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
California Institute of Technology (CalTech)	Supporting Organization	Academia	Pasadena, California

Primary U.S. Work Locations	
California	Colorado

Continued on following page.



CubeSat Infrared Atmospheric Sounder

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	2
Target Destination	3

Organizational Responsibility

Responsible Mission Directorate:

Science Mission Directorate (SMD)

Responsible Program:

In-space Validation of Earth Science Technologies

CubeSat Infrared Atmospheric Sounder (CIRAS)

Completed Technology Project (2016 - 2018)



Primary U.S. Work Locations (*cont.*)

Maryland

Project Management

Program Director:

Pamela S Millar

Program Manager:

Sachi Babu

Principal Investigator:

Thomas S Pagano

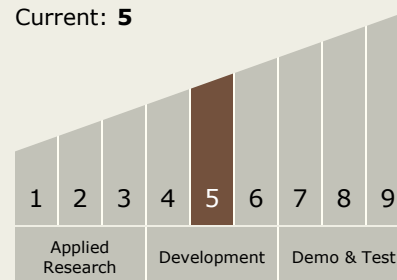
Co-Investigators:

Jose I Rodriguez
Lawrence L Strow
Christopher D Barnet
Karen R Piggee
Paula R Wamsley
Mayer Rud
Sarath D Gunapala
Hartmut H Aumann

Technology Maturity (TRL)

Start: 5

Current: 5



Technology Areas

Primary:

- TX08 Sensors and Instruments

Continued on following page.

CubeSat Infrared Atmospheric Sounder (CIRAS)

Completed Technology Project (2016 - 2018)



Technology Areas (cont.)

- └ TX08.1 Remote Sensing Instruments/Sensors
- └ TX08.1.6 Cryogenic / Thermal

Target Destination Earth